

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representation of  
The original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 1 of 23

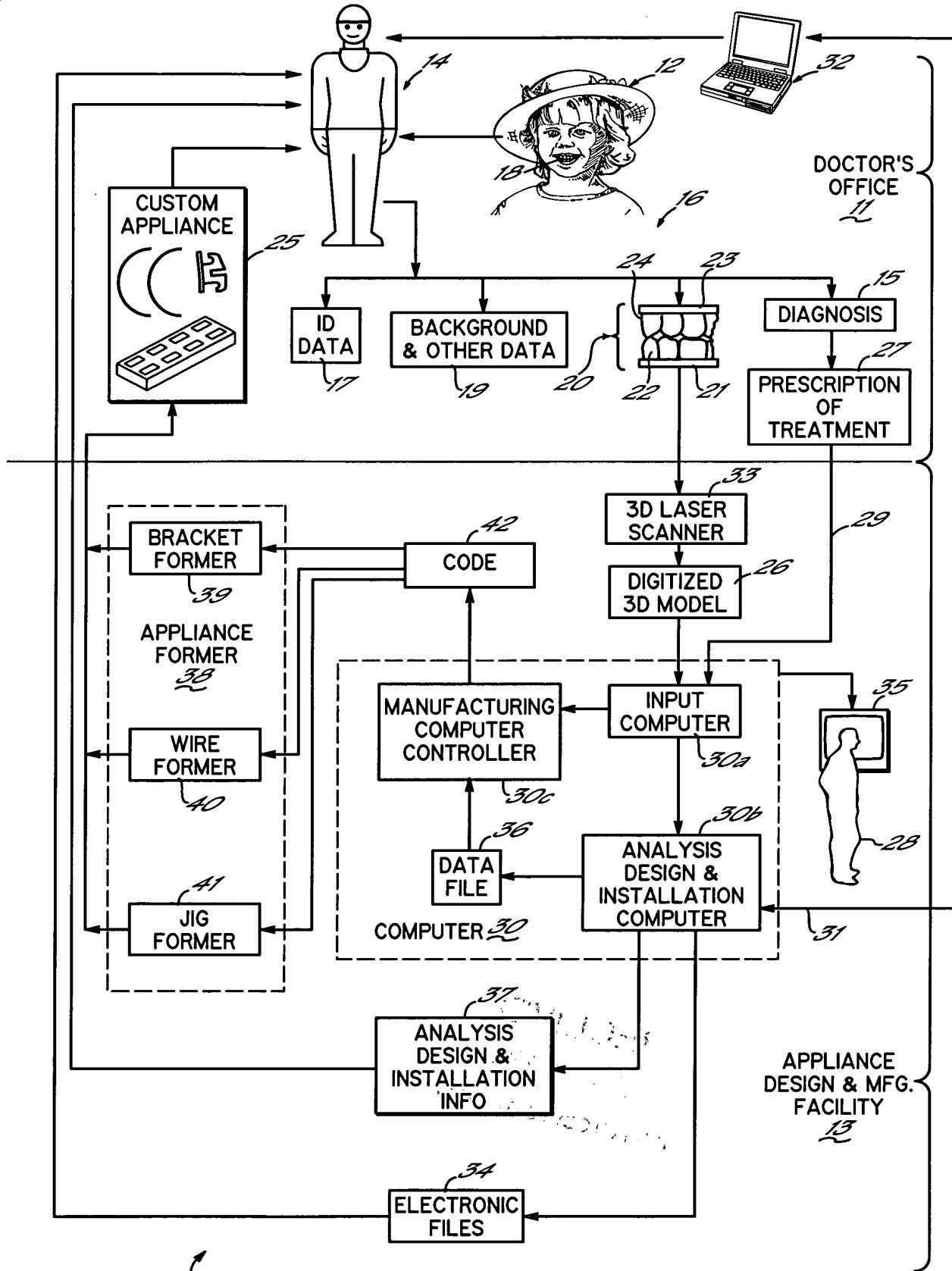


FIG. 1

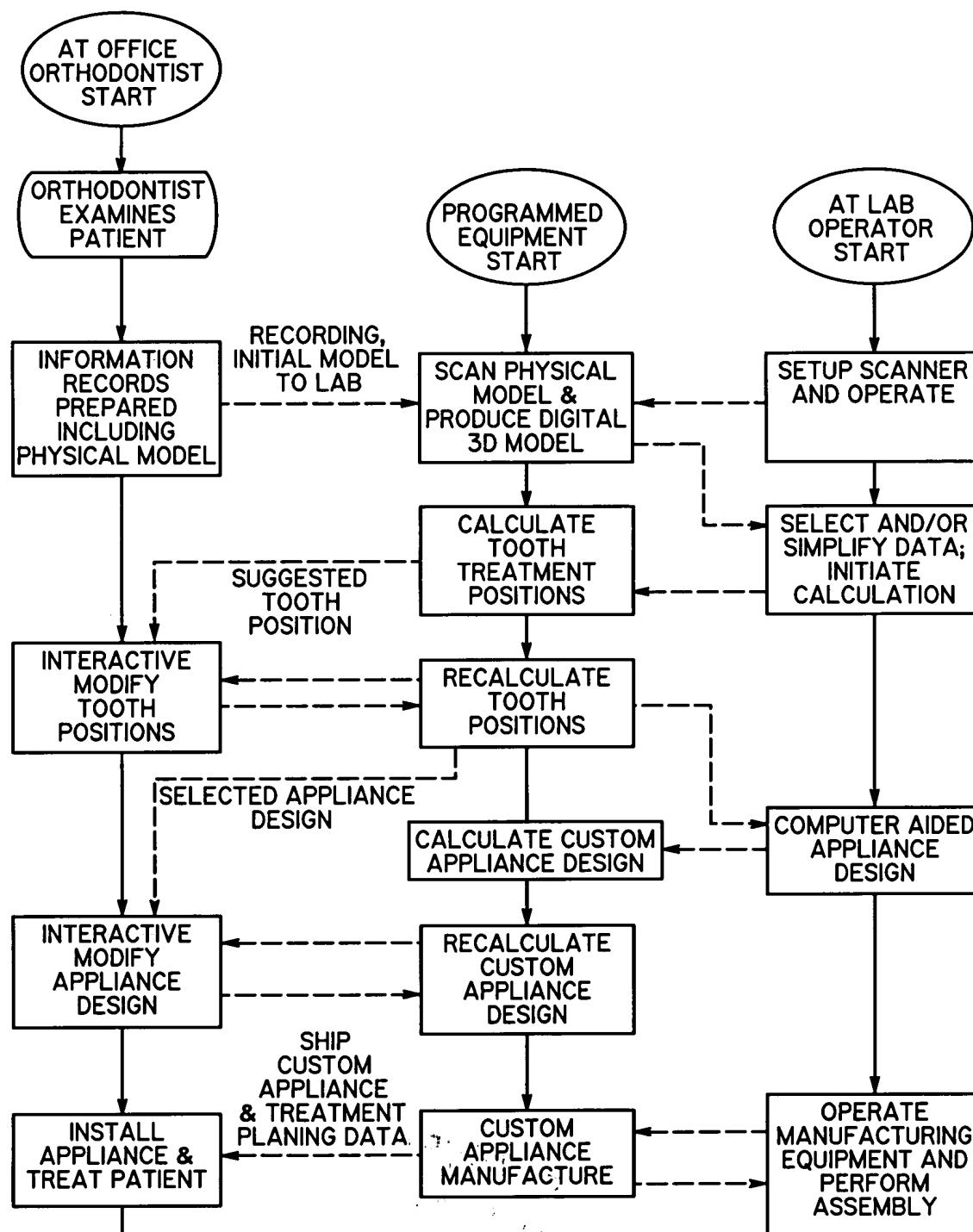
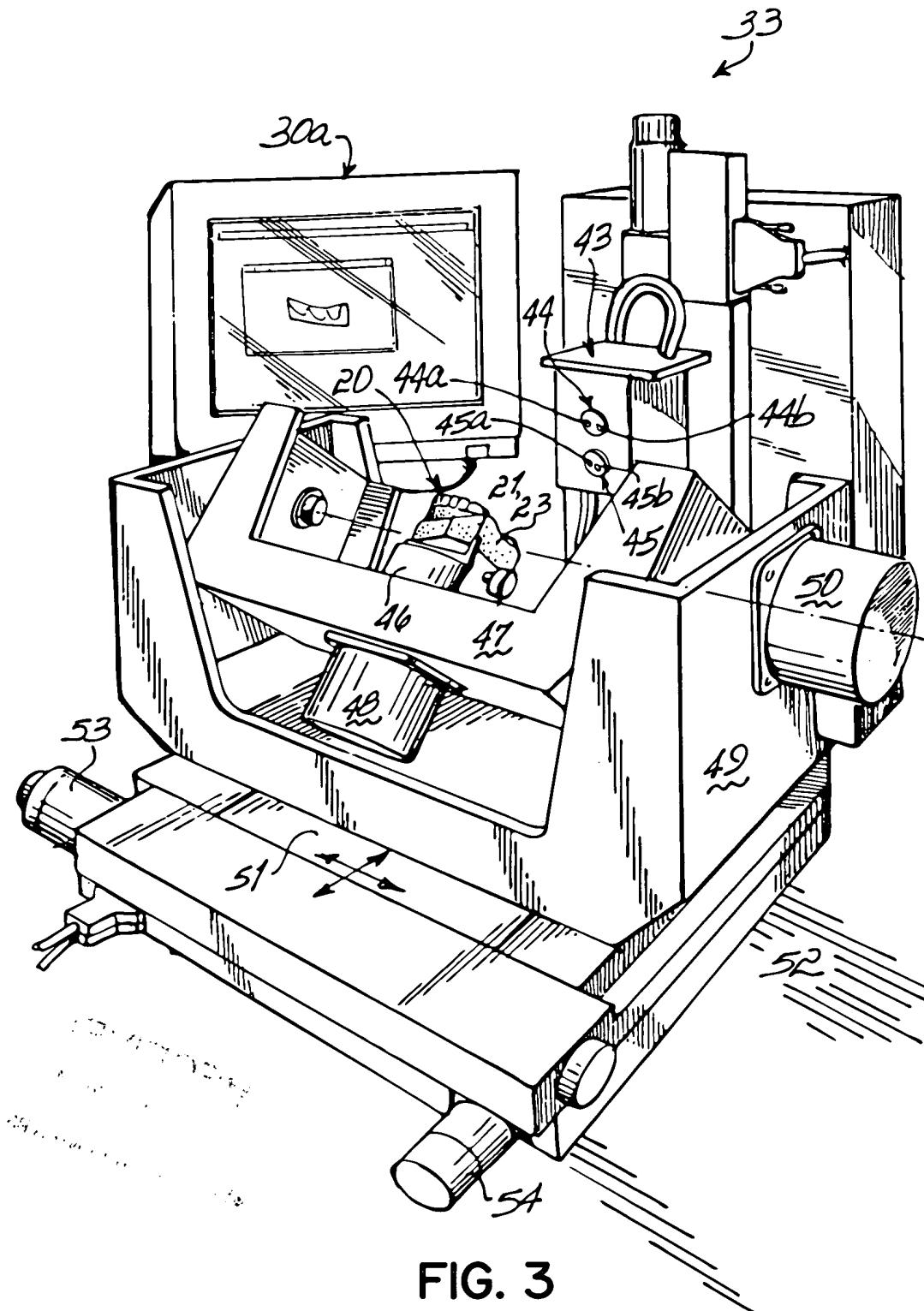
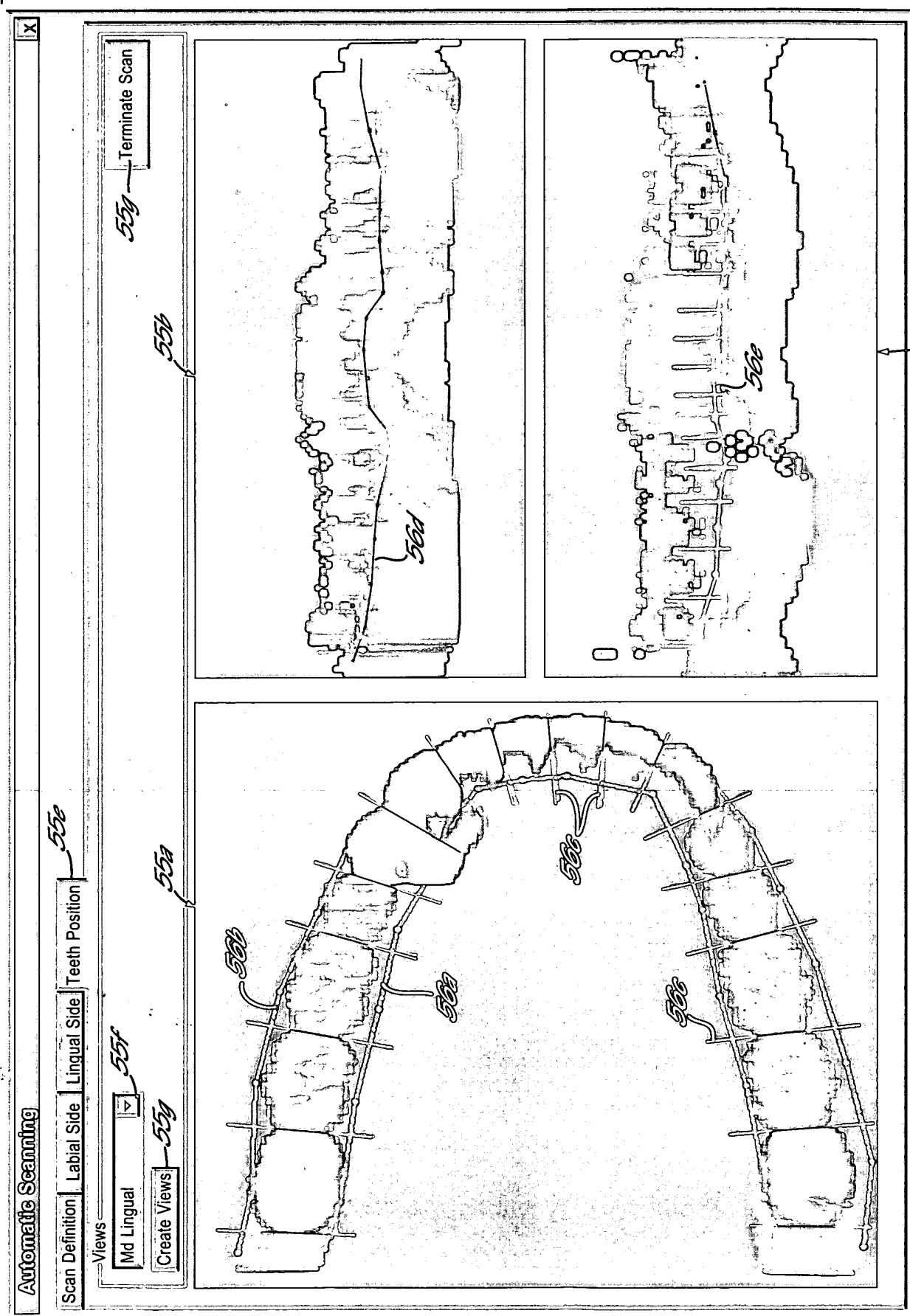


FIG. 2

O I P E JUN 04 2004 JC19  
PATENT & TRADEMARK OFFICE

CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 3 of 23







CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 5 of 23

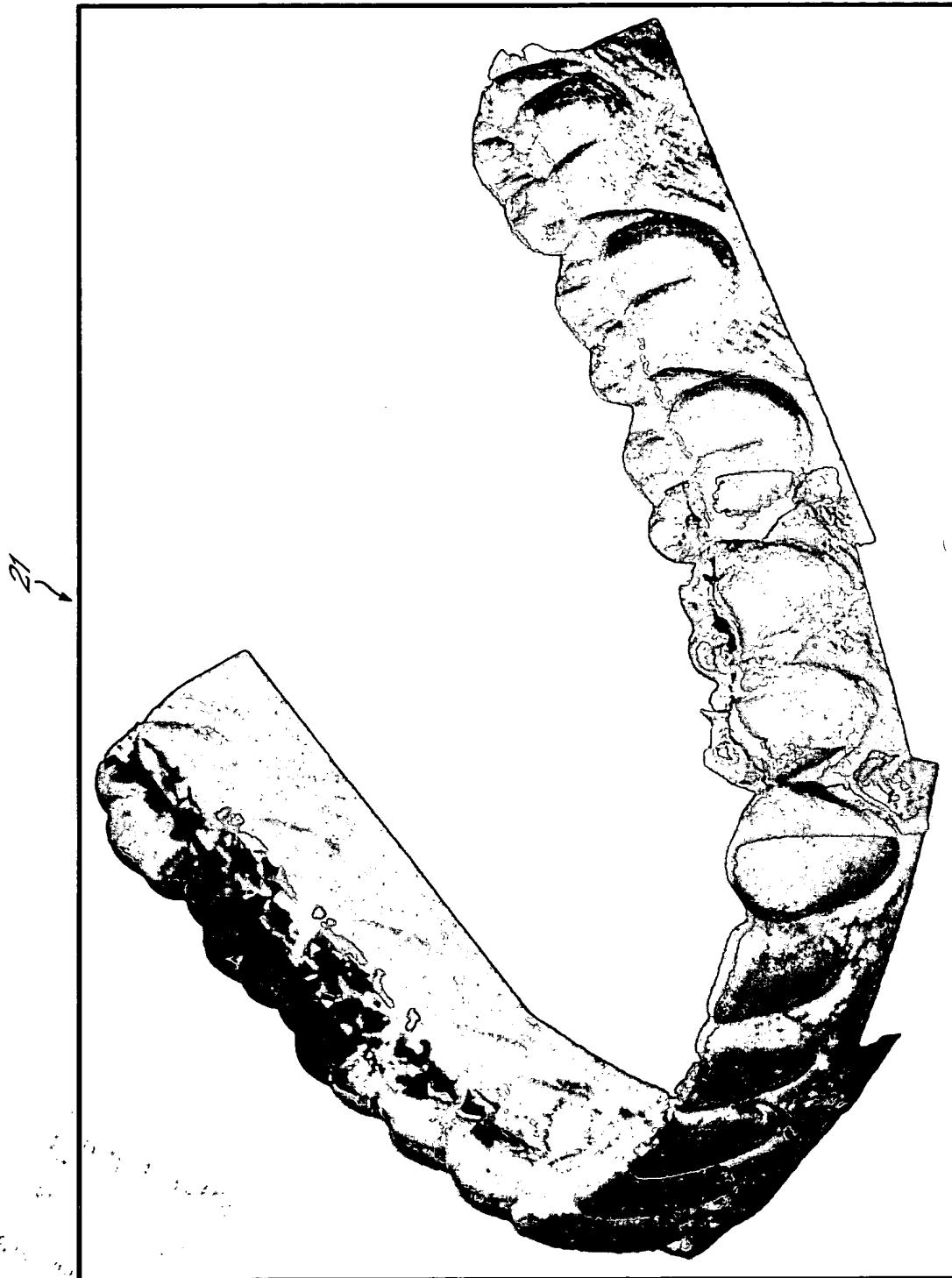


FIG. 3B

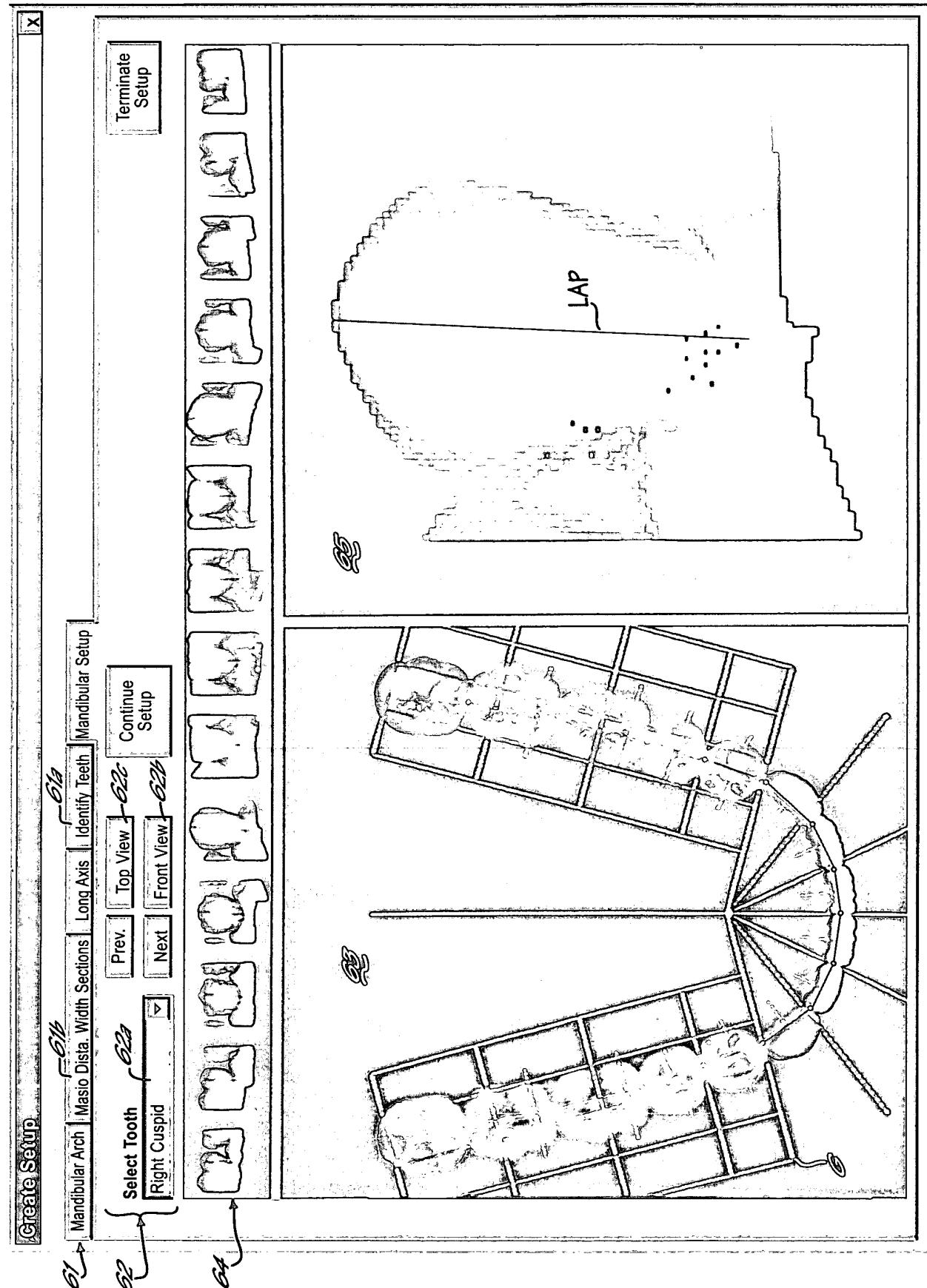


FIG. 4

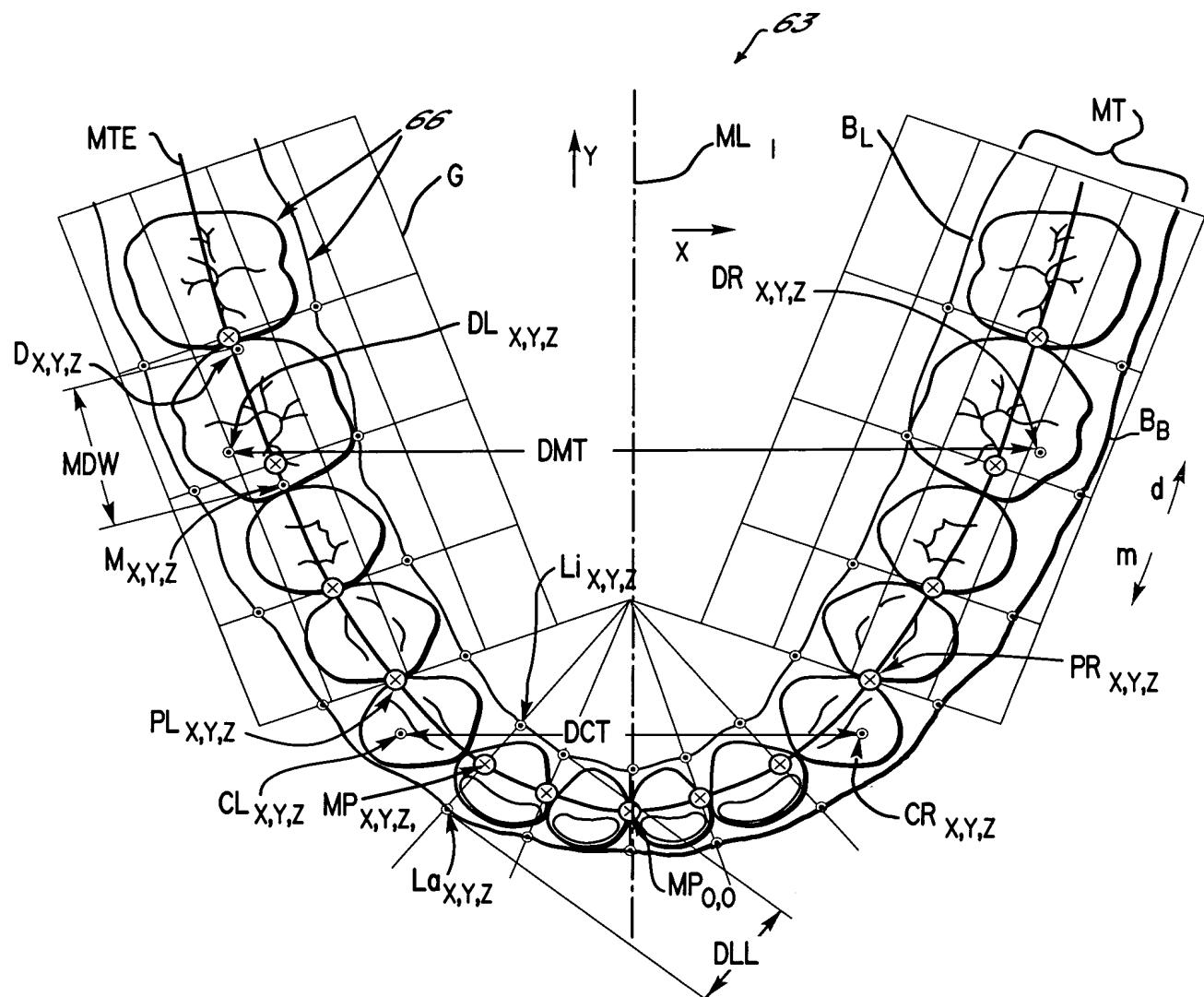


FIG. 4A



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 8 of 23

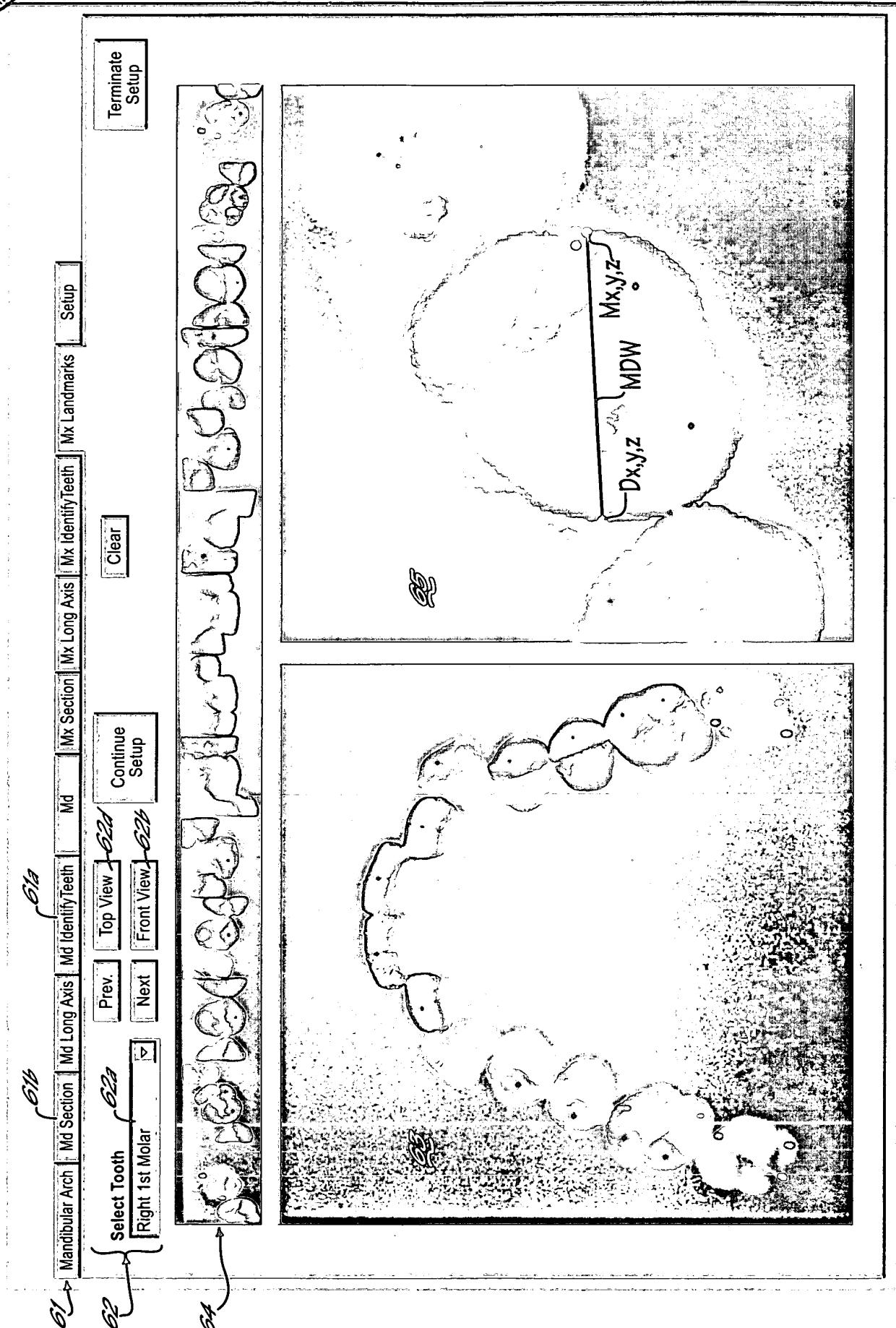


FIG. 4B

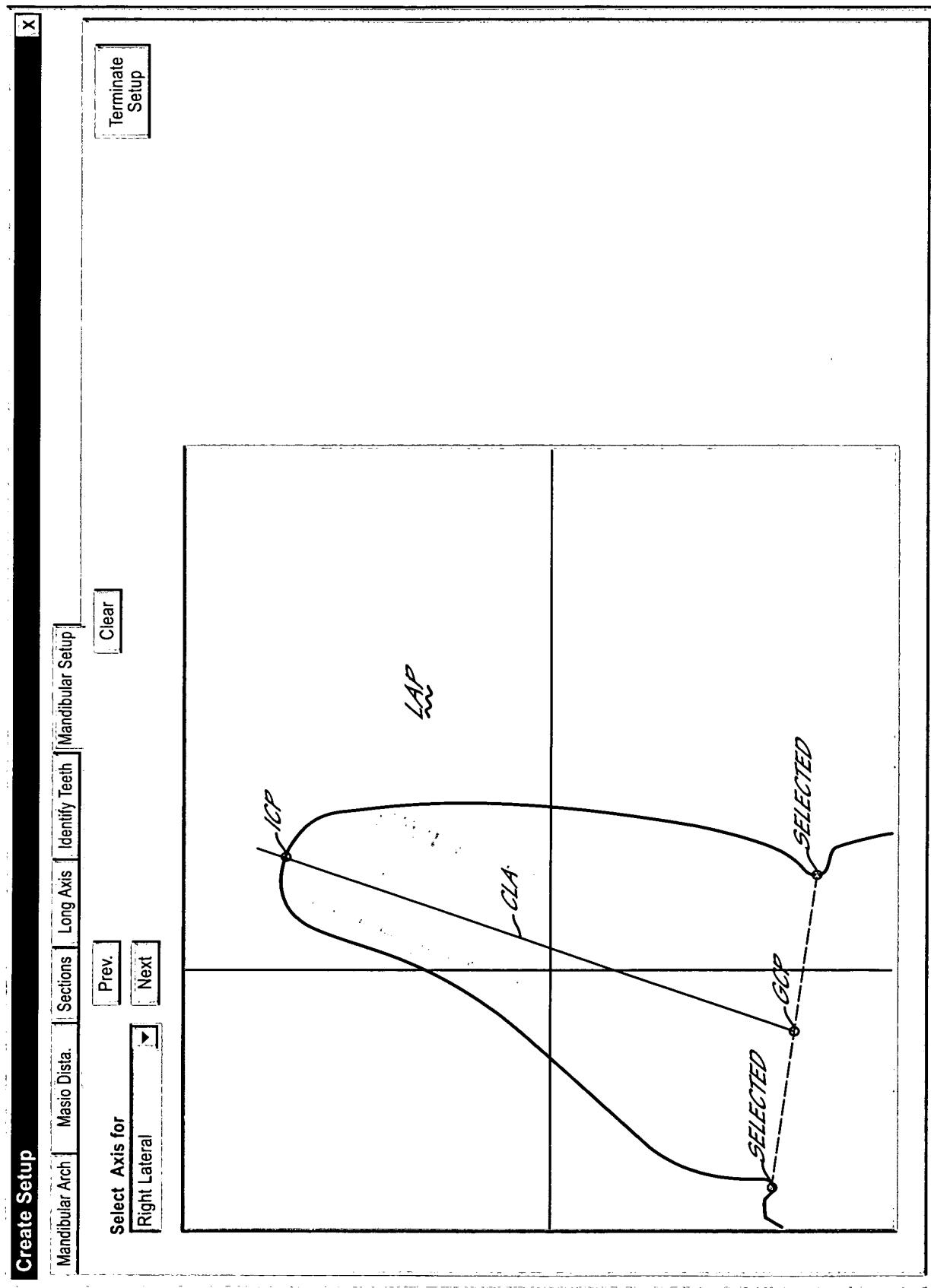


FIG. 4C



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 10 of 23

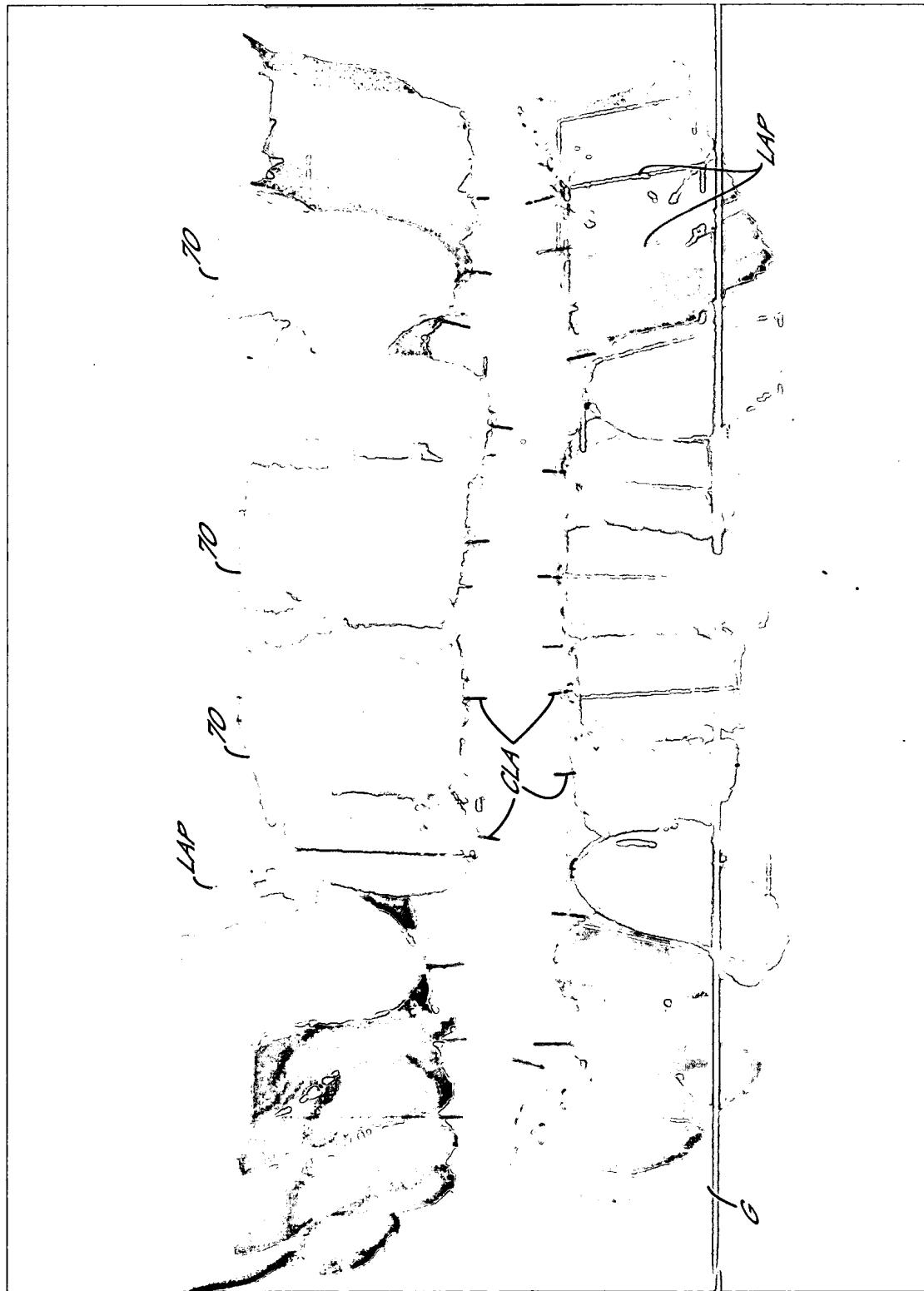


FIG. 5



The image shows a software interface for orthodontic treatment planning, specifically for a patient's upper arch. The interface is divided into four main sections:

- Configuration:** Shows a 3D wireframe model of the teeth and surrounding structures. A red arrow labeled "26" points to the upper left canine. A green arrow labeled "27" points to the upper right canine. A blue arrow labeled "28" points to the upper right second molar.
- Standard:** Shows a 3D wireframe model of the teeth and surrounding structures. A red arrow labeled "25" points to the upper left second molar. A green arrow labeled "26" points to the upper right second molar. A blue arrow labeled "27" points to the upper right first molar.
- Setup:** Shows a 3D wireframe model of the teeth and surrounding structures. A red arrow labeled "26" points to the upper left canine. A green arrow labeled "27" points to the upper right canine. A blue arrow labeled "28" points to the upper right second molar.
- Calculate:** Shows a 3D wireframe model of the teeth and surrounding structures. A red arrow labeled "25" points to the upper left second molar. A green arrow labeled "26" points to the upper right second molar. A blue arrow labeled "27" points to the upper right first molar.

Below each section is a table of dental landmarks and their values:

Mandibular Arch	Md Section	Md Long Axis	Md Identity Teeth	Md Landmarks	Mx Section	Mx Long Axis	Mx Identity Teeth	Mx Landmarks
7	6	5	4	3	2	1	1	4
94	94	94	94	108	112	117	112	108
82	88	80	83	100	104	107	107	104
7	6	5	4	3	2	1	1	2

On the far right, there is a vertical column of checkboxes for the maxillary arch:

- Rot (MD)
- Set Height
- Torque
- Tip
- Sym. Width

At the bottom right, there is a "Calculate" button.

FIG. 5A



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 12 of 23

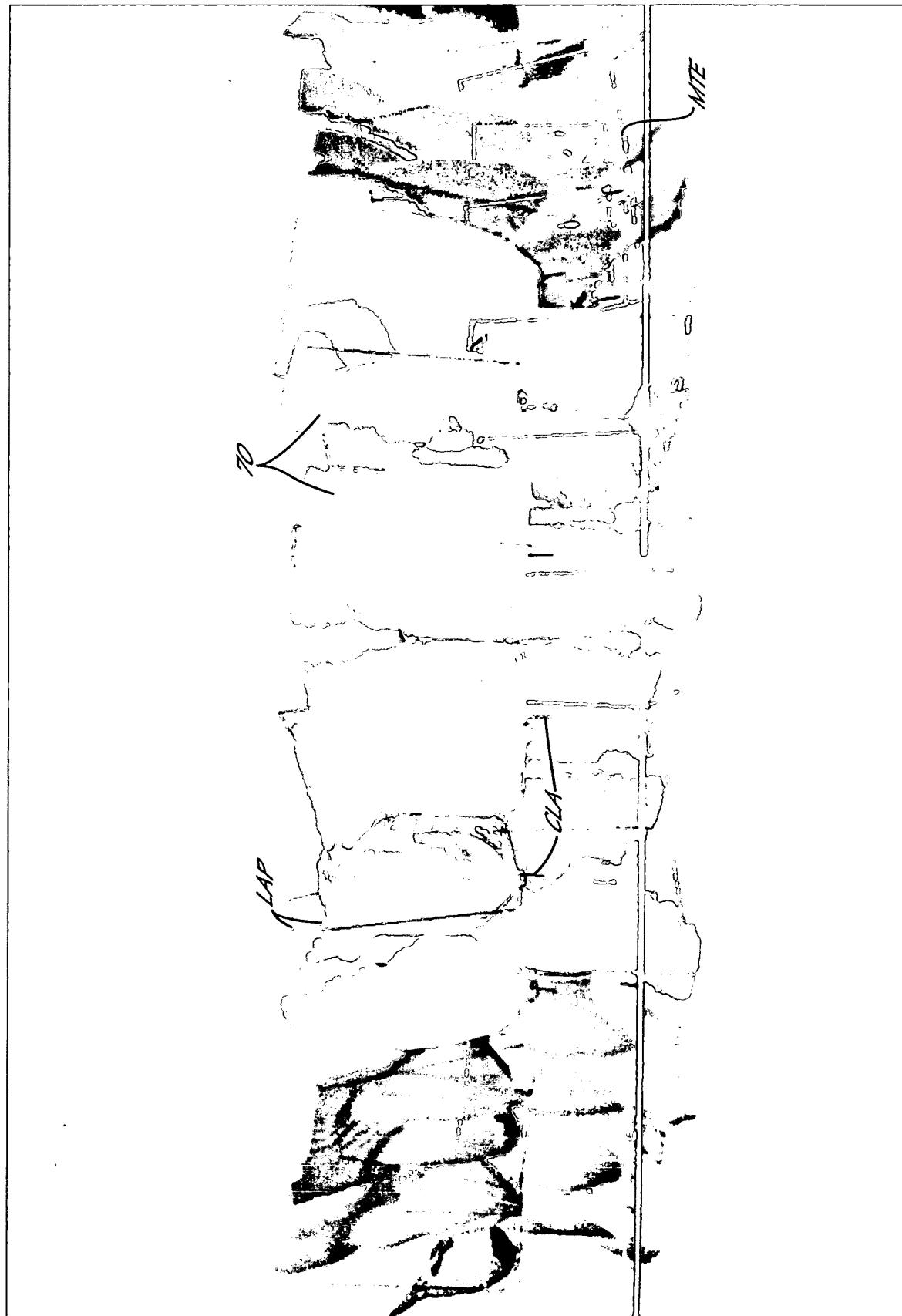
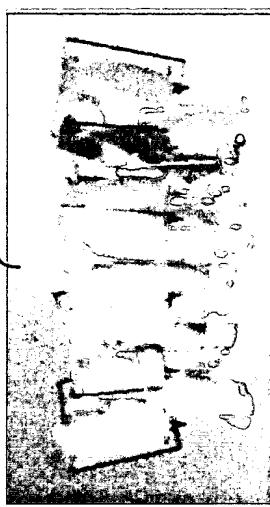
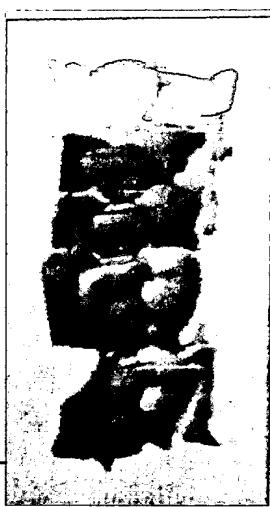


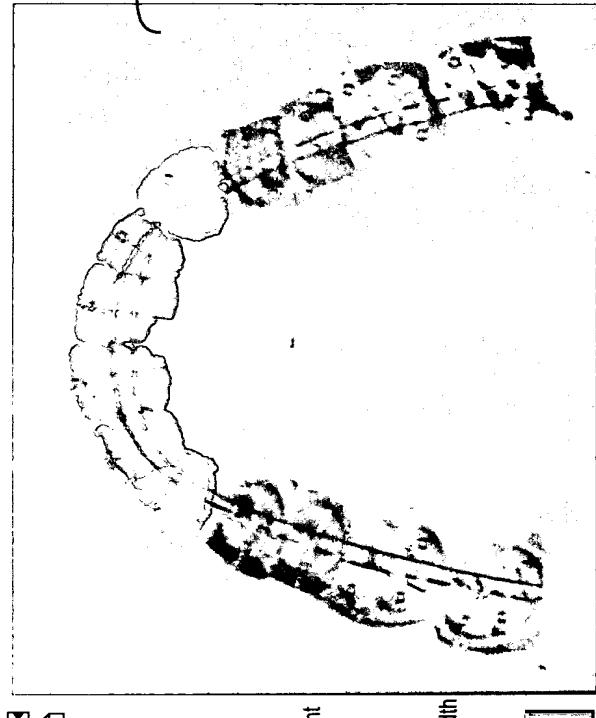
FIG. 5B

Mandibular Arch	Md Section	Md Long Axis	Md Identity Teeth	Md Landmarks	Mx Section	Mx Long Axis	Mx Identity Teeth	Mx Landmarks	Setup	Standard	Terminate Setup
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	6	5	4	3	2	1	1	2	3	4	5
13.8	8.1	3.0	3.5	10	9	5	5	9	10	4.4	2.1
0.1	6.8	3	3	6	4	2	2	3	6	3	12.0
7	6	5	4	3	2	1	1	2	3	4	16.4
											3.2
<input checked="" type="checkbox"/> Setup	<input type="checkbox"/>										
16	17	18	19	20	21	22	23	24	25	26	27











Maxillary

Rot (MD)

Set Height

Torque

Tip

Sym. Width

Calculate Setup

FIG. 5C



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 14 of 23

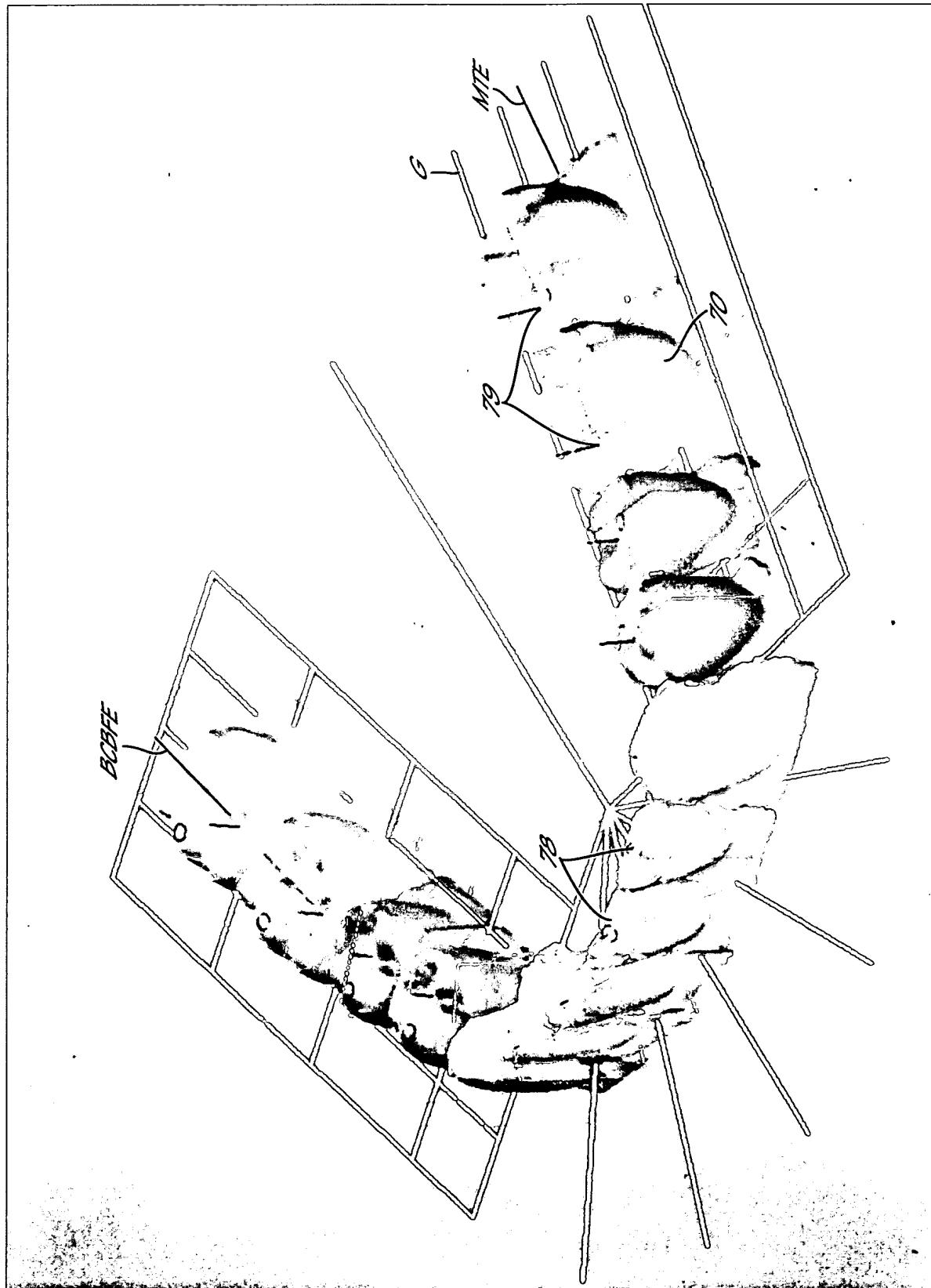


FIG. 5D

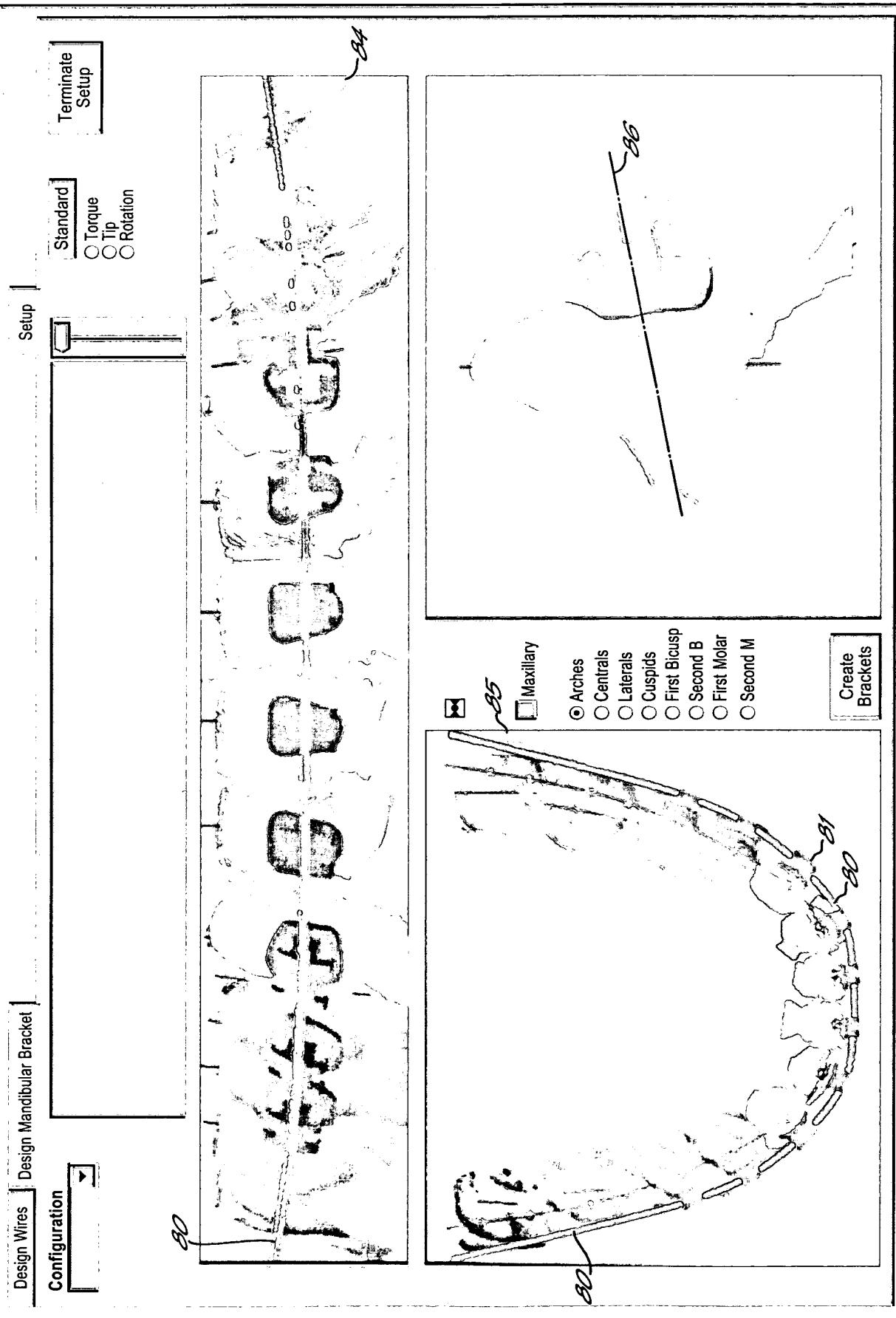


FIG. 5E

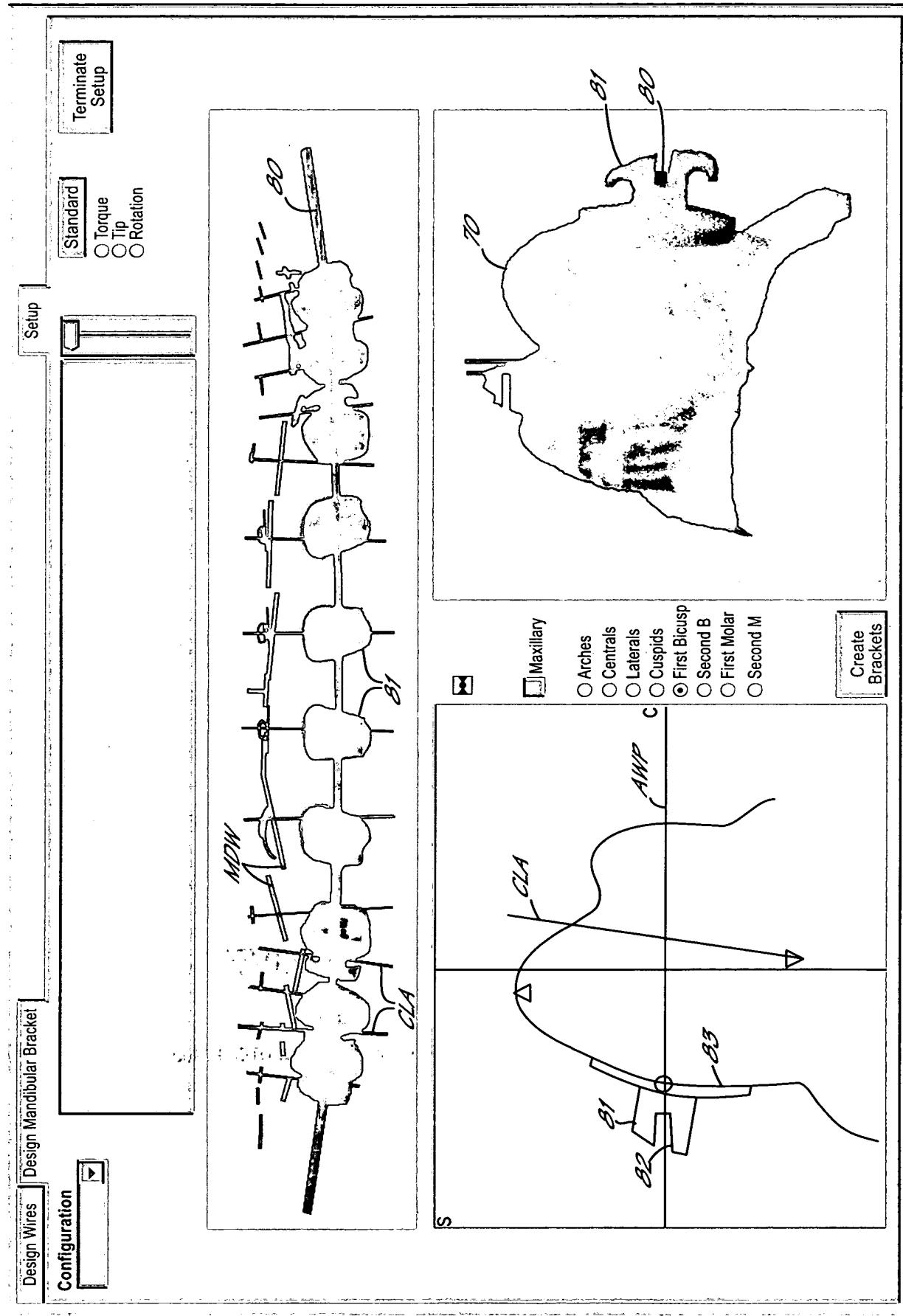
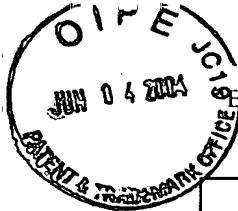


FIG. 5F



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 17 of 23

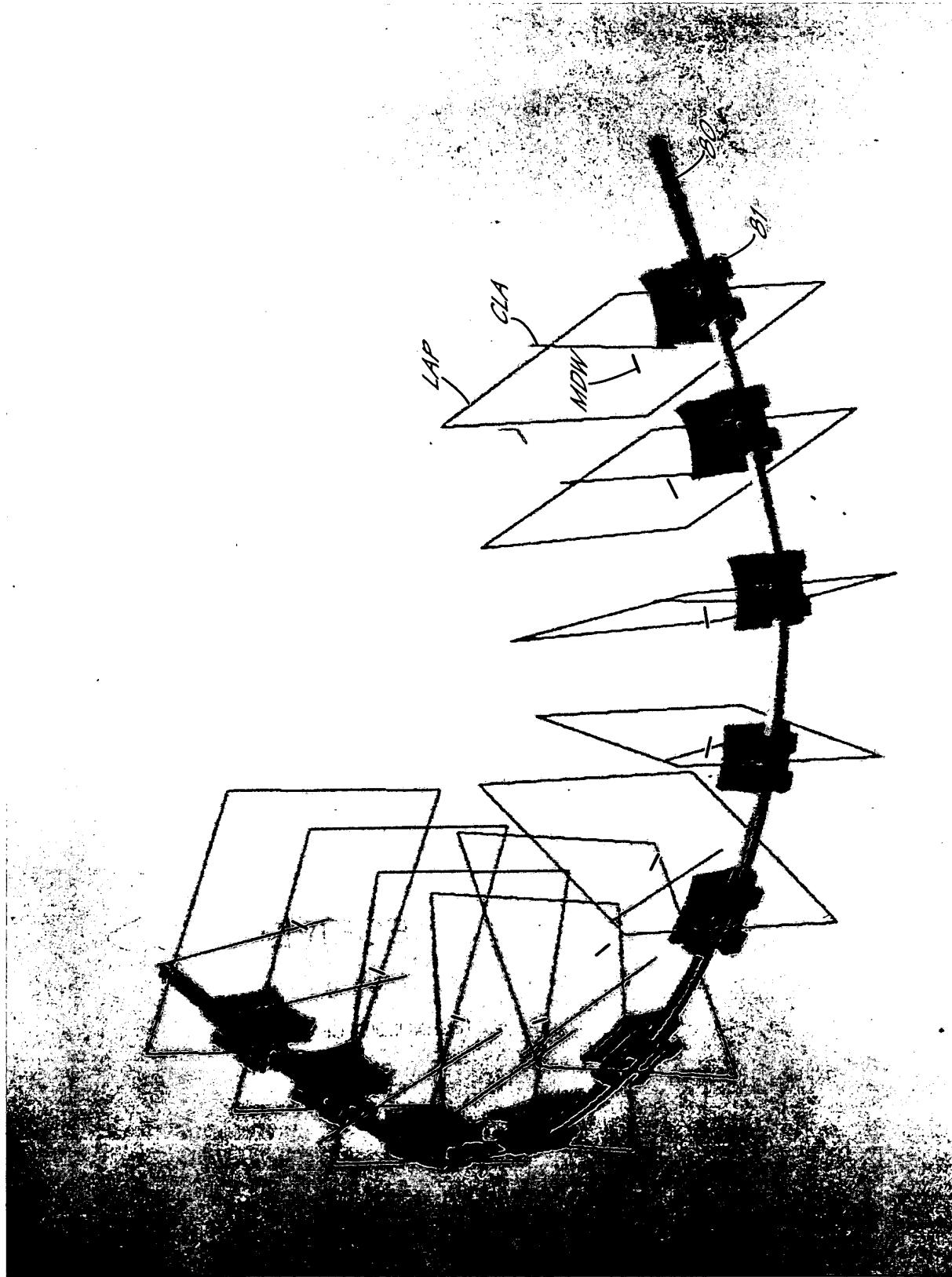


FIG. 5G

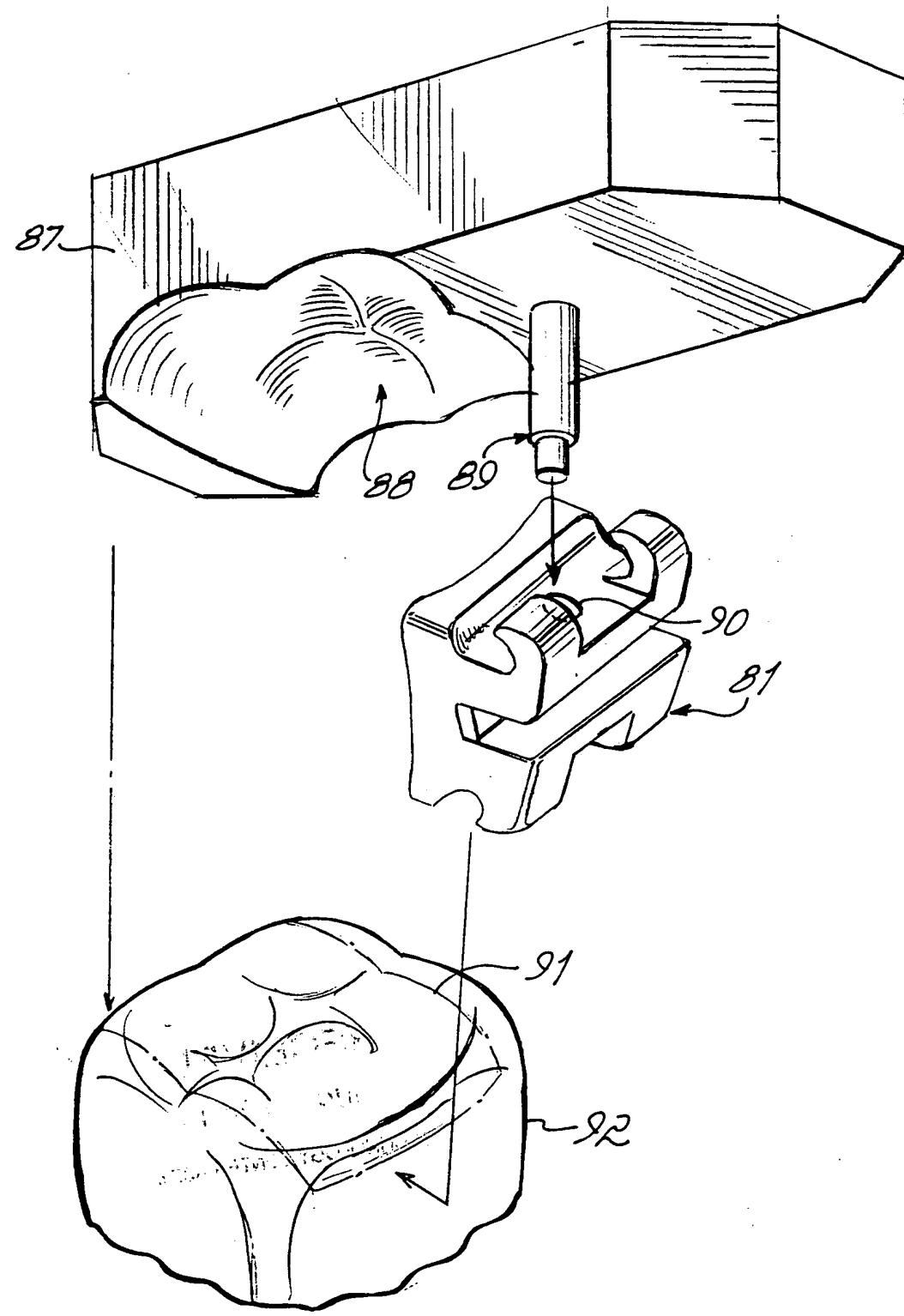
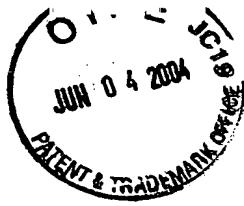
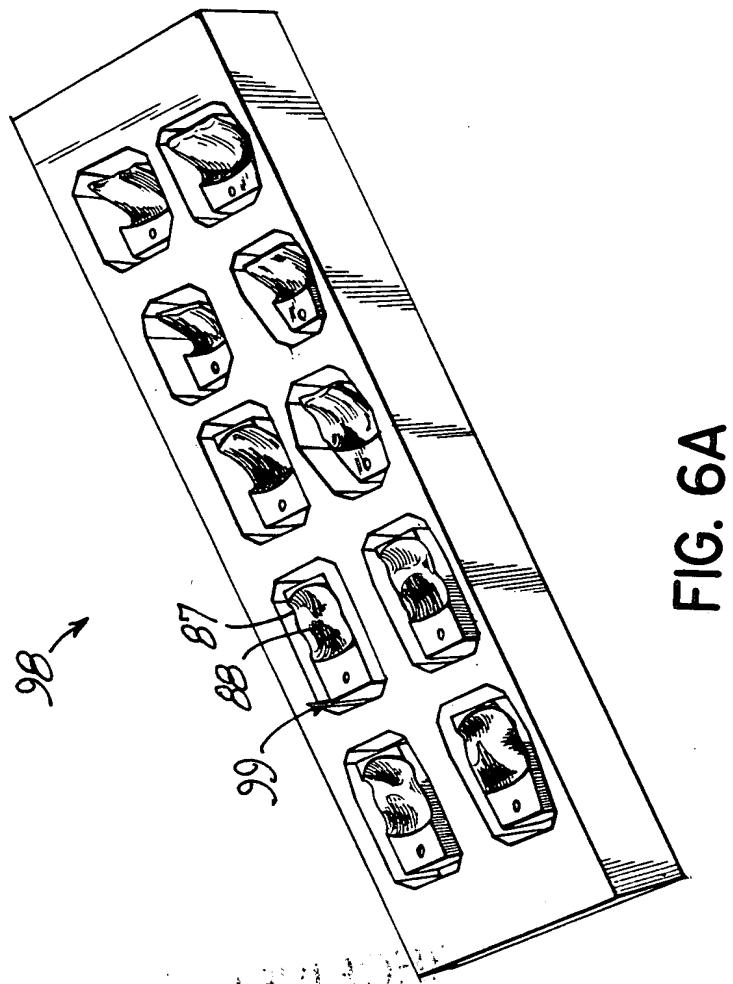


FIG. 6





CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 20 of 23

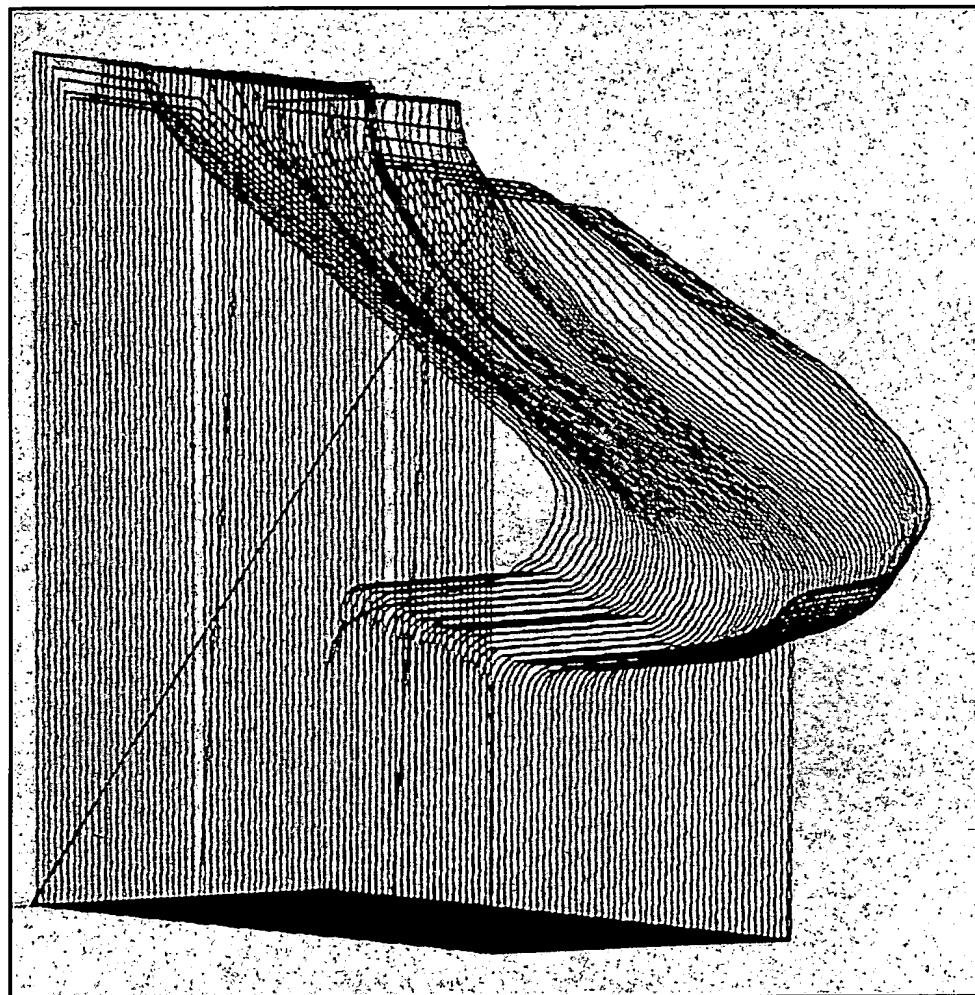


FIG. 6B



# CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS

EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 21 of 23

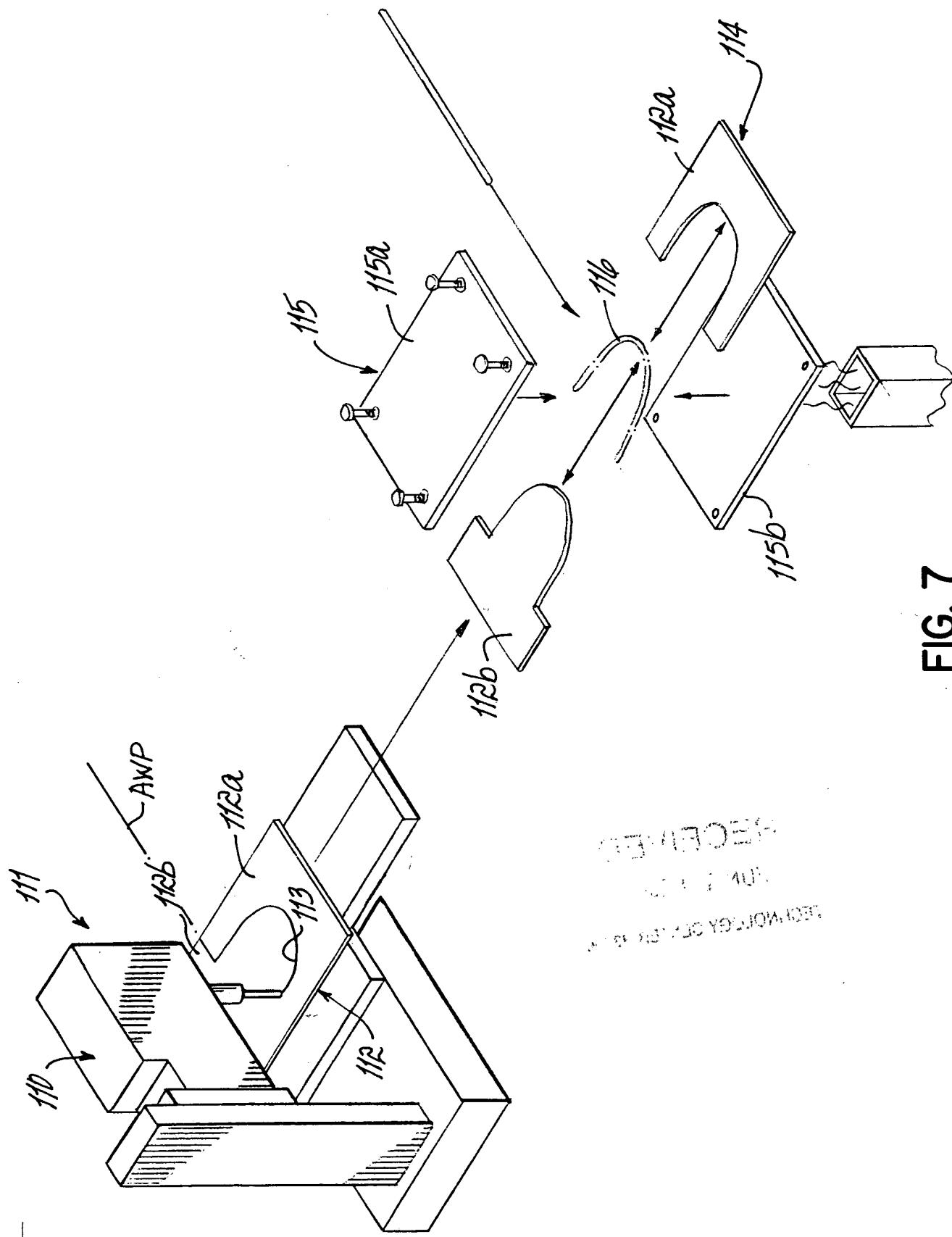


FIG 7



CUSTOM ORTHODONTIC APPLIANCE FORMING METHOD AND APPARATUS  
EXPRESS MAIL NO.EV354968731US; Inventor: Chapoulaud et al.; Atty Dkt: ORM-166CI; Sheet 22 of 23

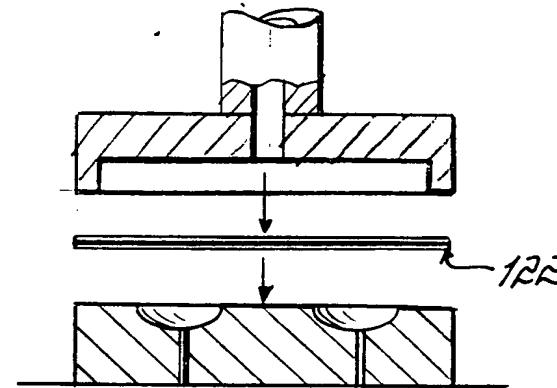


FIG.8A

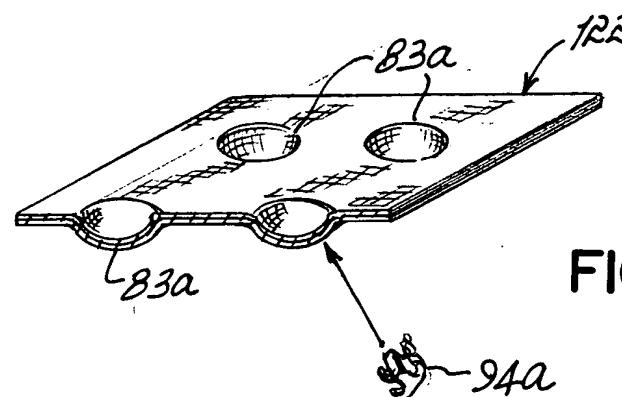


FIG.8B

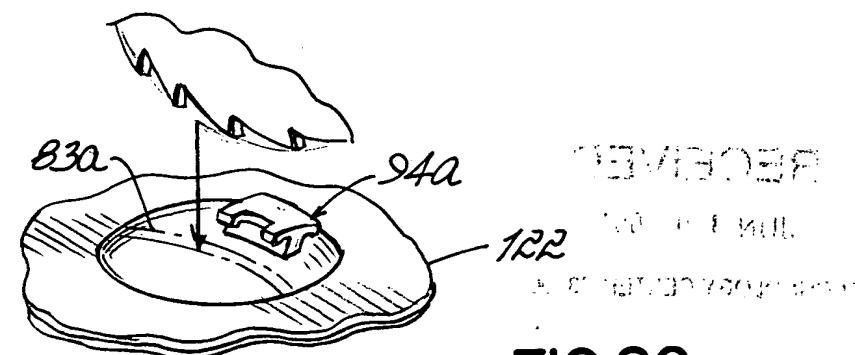


FIG.8C

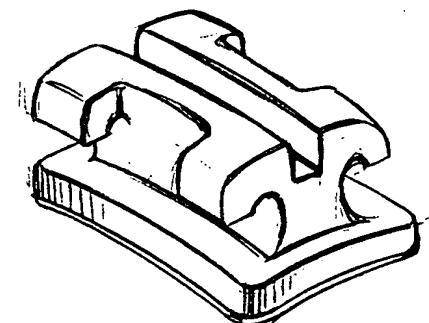


FIG.8D

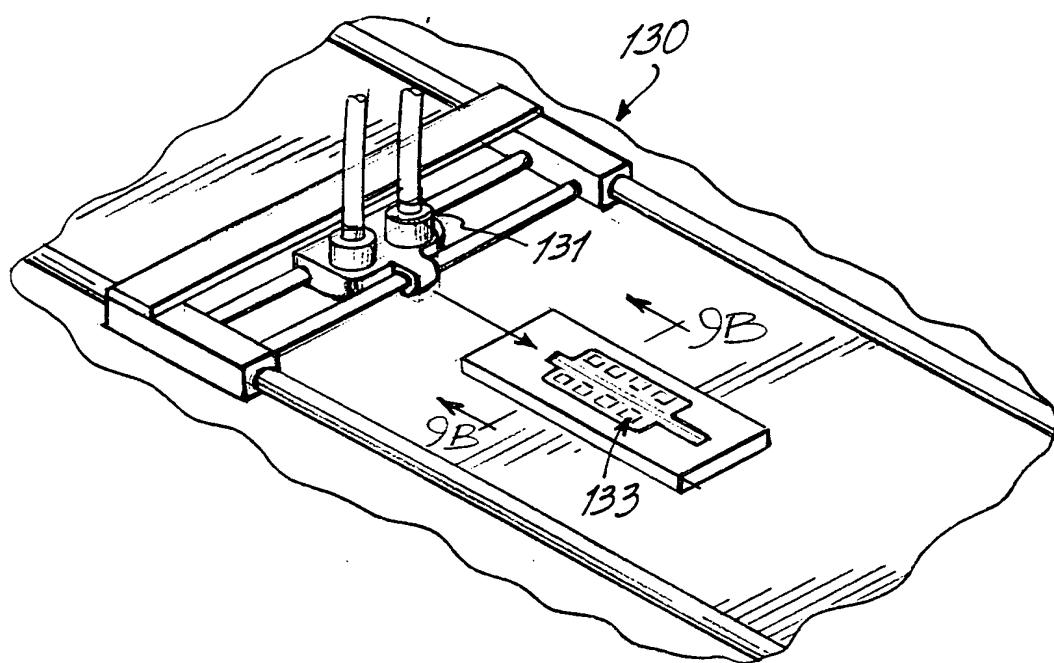


FIG.9A

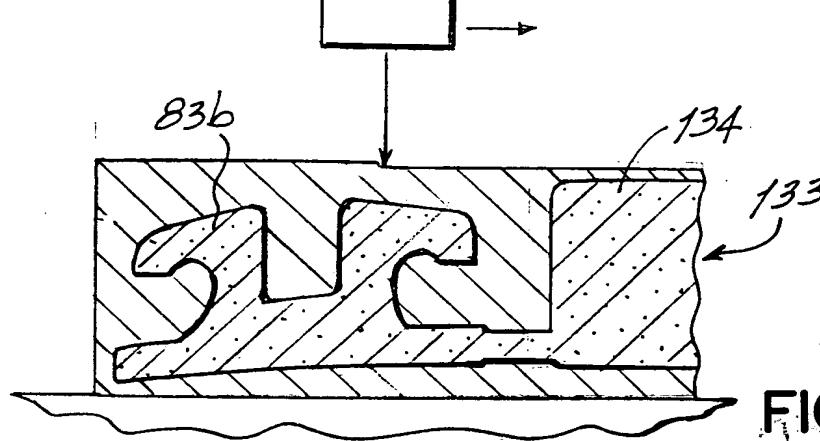


FIG.9B

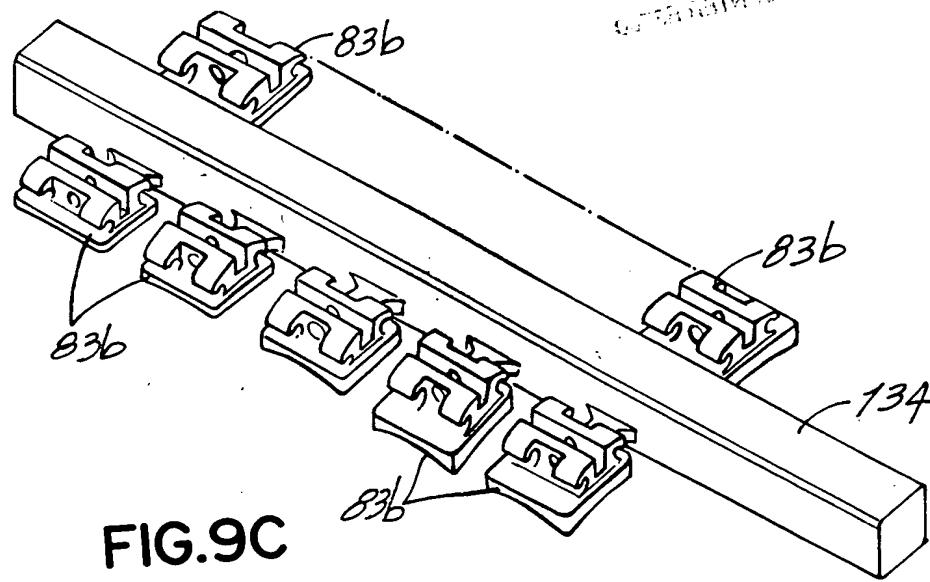


FIG.9C